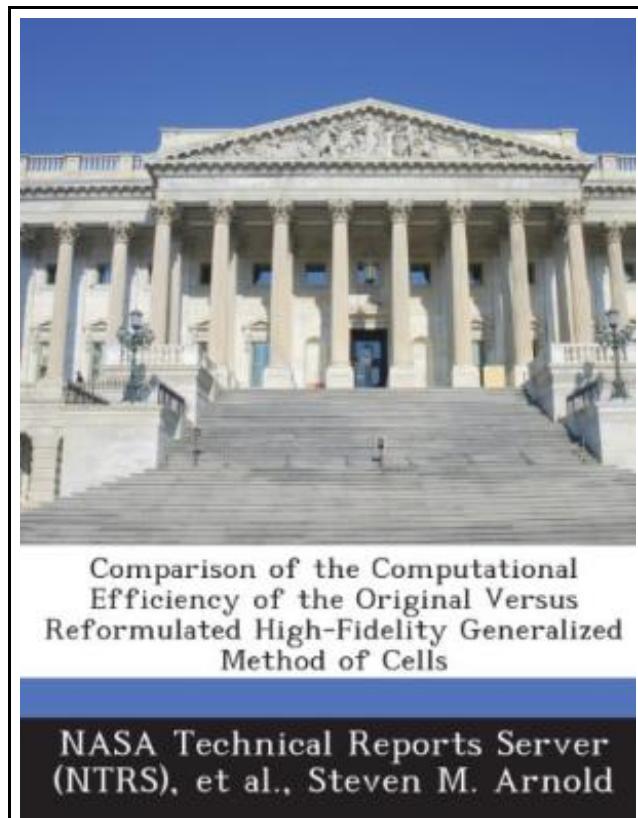


Comparison of the Computational Efficiency of the Original Versus Reformulated High-Fidelity Generalized Method of Cells



Filesize: 4.82 MB

Reviews

This composed pdf is fantastic. It normally will not expense too much. You will like how the writer write this publication.

(Dr. Jerald Hansen)

COMPARISON OF THE COMPUTATIONAL EFFICIENCY OF THE ORIGINAL VERSUS REFORMULATED HIGH-FIDELITY GENERALIZED METHOD OF CELLS

[DOWNLOAD PDF](#)

BiblioGov. Paperback. Book Condition: New. This item is printed on demand. Paperback. 30 pages. Dimensions: 9.7in. x 7.4in. x 0.1in. The High-Fidelity Generalized Method of Cells (HFGMC) micromechanics model has recently been reformulated by Bansal and Pindera (in the context of elastic phases with perfect bonding) to maximize its computational efficiency. This reformulated version of HFGMC has now been extended to include both inelastic phases and imperfect fiber-matrix bonding. The present paper presents an overview of the HFGMC theory in both its original and reformulated forms and a comparison of the results of the two implementations. The objective is to establish the correlation between the two HFGMC formulations and document the improved efficiency offered by the reformulation. The results compare the macro and micro scale predictions of the continuous reinforcement (doubly-periodic) and discontinuous reinforcement (triply-periodic) versions of both formulations into the inelastic regime, and, in the case of the discontinuous reinforcement version, with both perfect and weak interfacial bonding. The results demonstrate that identical predictions are obtained using either the original or reformulated implementations of HFGMC aside from small numerical differences in the inelastic regime due to the different implementation schemes used for the inelastic terms present in the two formulations. Finally, a direct comparison of execution times is presented for the original formulation and reformulation code implementations. It is shown that as the discretization employed in representing the composite repeating unit cell becomes increasingly refined (requiring a larger number of sub-volumes), the reformulated implementation becomes significantly (approximately an order of magnitude at best) more computationally efficient in both the continuous reinforcement (doubly-periodic) and discontinuous reinforcement (triply-periodic) cases. This item ships from La Vergne, TN. Paperback.

- [Read Comparison of the Computational Efficiency of the Original Versus Reformulated High-Fidelity Generalized Method of Cells Online](#)
- [Download PDF Comparison of the Computational Efficiency of the Original Versus Reformulated High-Fidelity Generalized Method of Cells](#)

Relevant eBooks



Animology: Animal Analogies

Sylvan Dell Publishing. Paperback. Book Condition: New. Cathy Morrison (illustrator). Paperback. 32 pages. Dimensions: 9.8in. x 8.4in. x 0.4in. Compare and contrast different animals through predictable, rhyming analogies. Find the similarities between even the most incompatible...

[Read Document »](#)



The Whale Tells His Side of the Story Hey God, I've Got Some Guy Named Jonah in My Stomach and I Think I'm Gonna Throw Up

B&H Kids. Hardcover. Book Condition: New. Cory Jones (illustrator). Hardcover. 32 pages. Dimensions: 9.1in. x 7.2in. x 0.3in. Oh sure, well all heard the story of Jonah and the Whale a hundred times. But have we...

[Read Document »](#)



Good Night, Zombie Scary Tales

Feiwel & Friends. Paperback. Book Condition: New. Iacopo Bruno (illustrator). Paperback. 112 pages. Dimensions: 8.2in. x 5.4in. x 0.2in. Welcome. Have a seat. Ignore the shambling undead outside. Let us tell you a story. But be...

[Read Document »](#)



God Loves You. Chester Blue

Henry and George Press. Paperback. Book Condition: New. Ursula Andrejczuk (illustrator). Paperback. 140 pages. Dimensions: 8.0in. x 5.2in. x 0.3in. BEAUTIFUL NEW ILLUSTRATIONS BRING THE STORY TO LIFE! A charming book about a mysterious bear that shows...

[Read Document »](#)



Viking Ships At Sunrise Magic Tree House, No. 15

Random House Books for Young Readers. Paperback. Book Condition: New. Sal Murdocca (illustrator). Paperback. 96 pages. Dimensions: 7.4in. x 4.9in. x 0.2in. Jack and Annie are ready for their next fantasy adventure in the bestselling middle-grade...

[Read Document »](#)